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"STATINS KALEIDOSCOPE". MYOPATHY FROM STATINS

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Statins are medications that inhibit the 3-hydroxy-3-methylglutaryl-CoA reductase enzyme, thus inhibiting cholesterol biosynthesis. Statins reduce cardiovascular risk and morbidity in patients with coronaropathia, however, without forgetting their side effect in muscle toxicity. Clinically, patients with myopathy caused by statins are divided into four main groups: those with rhabdomyolysis, myalgia / hyper CPK, toxic myopathy limited by statins and myositis (necrotizing myopathy mediated by immune complexes with anti-HMGCR antibodies, IMNM).

IMNM is a true autoimmune myopathy, in favor of which goes: the severe weakness of muscles of the proximal extremities, dysphagia, diaphragm muscle dyspnoea, CPK serum increase values 10-100 times above the limit value, in EMG data refer to myopathy, muscular biopsy indicates necrosis and regeneration of muscular fibers with mostly macrophage inflammatory infiltrates, auto antibodies positive to anti-HMGCR, as well as treatment of this myopathy with immunosupressors , calcineurin antagonists, MMF, Ig i / v and in some cases with biological preparations (Rutiximab), plasmopheresis.

IMNM is a rare myopathy with incidence of 2-3 cases for every 100,000 statin-taking patients who present HLA DRB1 * 11; 01 (for adults) and DRB1 * 07:11 (for children). These patients present anti-HMGCR positive in their serum and AAN pos / neg.

IMNM is a necrotizing myopathy mediated by autoimmune-antibody complexes directed to HMGCR, an enzyme that is inhibited by statins. Statins inhibit HMGCR; promote the expression and presentation of peptides of this enzyme to HLA DRB1; 11; 01, thus causing an autoimmune disease. Once the autoimmune process has started, HMGCR expression from statins is no longer necessary for the continuation of the disease. Anti-HMGCR is found in the muscle cells and some authors report that levels of this antibody correlate with CPK serum levels, activity of the disease, which indicates the role of this autoantibody in the pathogenesis of the disease.

In some other studies it has been shown that anti-HMGCR inhibits muscular regeneration and induces muscular atrophy.

In conclusion:

- Patients with autoimmune myopathy related to the use of statins and anti-HMGCR antibody present in the muscular biopsy show similar sign with polymyositis, necrosis and inflammatory infiltrate in the muscle cells.
- Autoimmune myopathy from anti-HMGCR statins is also described in children using statin therapy (familiar hypercholesterolemia, MF).
- Statin autoimmune induced myopathy is presented with a heterogeneous clinical framework of light moderate forms that do not require the use of immuno suppressants to severe refractory forms which need to use immunosuppressants.
- Ig i/v present the most preferred treatment in patients diagnosed with necrotizing myopathy mediated by immune complexes and anti-HMGCR antibody.
- Now statin-induced myopathy provides a new proven model in which drug-induced muscle toxicity modifies the HMGCR molecule and promotes an autoimmune phenomenon.

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